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Watering Down the Water Problem: *An institutional perspective*

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Next to air, water is one resource that man cannot live without. Aside from drinking, water is needed for irrigation, power, industrial and domestic uses.

Watershed is one of the major sources of water. There are 183 watersheds in the country today but sadly, 62 percent of them are assessed to be already in critical condition. Man-related activities in communities within and around watersheds have accelerated the conversion of forested areas to grasslands, thereby limiting the watersheds' capacity to hold water for the dry season river base flows. Consequently, this has led to a deterioration in the water supply. And unless an appropriate water resource management system that goes beyond the boundaries of the watershed itself is put in place, then both the quantity and quality of water may be placed in jeopardy in the future.

Water resource management, however, is largely an intersectoral affair that calls for proper coordination and the setting up of appropriate institutional and regulatory mechanisms. Such mechanisms should simultaneously address the concerns of the water user such as the domestic and industrial sectors, and the water provider, in particular, the watershed.

In this light, this *Policy Notes* outlines the current set-up, policies and issues on water management in the country and extracts the key concerns affecting institutional matters that need to be addressed to help craft an efficient and effective water resource management system.

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PIDS Policy Notes are observations/analyses written by PIDS researchers on certain policy issues. The treatise is holistic in approach and aims to provide useful inputs for decisionmaking.

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Review of policies and regulations on water management

Over the years, a number of decrees, executive orders and bills have been issued affecting the manner by which the production and use of water in the country are managed and regulated.

Since the current set-up and coordination on water resource management largely reflects the provisions of these issuances, it is useful to review said issuances to determine their soundness and effectiveness.

Provincial Water Utilities Act of 1973

Presidential Decree (P.D.) 198, also known as the Provincial Water Utilities Act of 1973, provided for the creation of independent and locally controlled water districts that could own and operate water supply and distribution systems for domestic, industrial, municipal and agricultural uses (Sec. 5). It also directed water districts to take over the management, administration, operation and maintenance of all watersheds within their territorial boundaries (Sec. 31). The P.D. also established the Local Water Utilities Administration (LWUA) to manage the water districts and review rates or charges established by local water utilities (Sec. 50).

The Water Code of the Philippines

P.D. No. 1067 of 1976, referred to as the Water Code of the Philippines, empowered the National Water Resources Board (NWRB), formerly the National Water Resources Council, to regulate the country's water resources. NWRB is the coordinating and regulating agency for water resources management and development in the country. It is an inter-agency board that regulates water use, resolves issues and conflicts in water resources management and development such as inconsistencies in fees and charges. It approves projects involving the appropriation, utilization, exploitation, development, control, conservation and protection of the country's water resources (Art. 85). NWRB is also authorized to "deputize" any official or agency of the government to perform any of its specific functions or activities (Art. 80).

National Water Crisis Act of 1995

The enactment of Republic Act (R.A.) 8041, also known as the National Water Crisis Act of 1995, was in line with the policy of the State to address the water crisis especially in terms of the supply, distribution, finance, privatization of state-run water facilities, protection and conservation of watersheds, and waste and pilferage of water.

Section 3 of the R.A. prescribes the organization of the Joint Executive-Legislative Water Crisis Commission to undertake nationwide consultations on the water crisis and in-depth review of the entire water supply and distribution structure, and to recommend remedial and legislative measures to address the problems thereof.

Section 7 provides for the reorganization of the Metropolitan Waterworks and Sewerage System (MWSS) and LWUA for effective and innovative operations to address the water crisis.

Executive Order 374

In 1996, the Presidential Task Force on Water Resources Development and Management was also created through Executive Order (E.O.) 374 to plan and coordinate water policies and programs, including pricing and monitoring.

Local Government Code

Section 26 of the Local Government Code (LGC) or R.A. 7160 requires any national agency or government-owned or controlled corporation involved in the planning or implementation of any project that may cause pollution and depletion of nonrenewable resources to consult with the local government units (LGUs) concerned and explain the project's ecological and environmental impact, and the measures that will be undertaken to prevent or minimize them.

Implementing mechanism

Based on the above, how do the various institutions and entities involved in water resource management work?

In a sense, the current implementing mechanism is a water network as can be seen in the collaboration among various agencies such as the NWRB, the Department of Environment and Natural Resources (DENR), MWSS, LWUA and others.

Since the varied physiographical and climatic conditions of the Philippines greatly affect the availability of water resources across the country, the NWRB divided the country into 12 water resource regions to serve as management units for the comprehensive planning of water resources development (Dayrit 2000). In so doing, the NWRB works with the National Statistical Coordination Board (NSCB) on policy initiatives concerning Philippine economic-environmental and natural resources accounting. The NWRB also coordinates with various water districts on matters that govern drilling, operation and maintenance of wells within their territorial boundaries. It has direct control over the operation of public water supply services outside the jurisdiction of the MWSS and LWUA water districts. The DENR also requests the NWRB to review programs/projects related to water resources. Moreover, the DENR has also forged an agreement with LWUA on co-management of certain watersheds supporting facilities of local water districts (Javier 1999).

Meanwhile, in terms of water use regulation, Box 1 shows that a number of agencies are involved in the issuance of water permits.

Issues in water resource management

Two major concerns affecting water resource management have emerged through the years. One is the multiplicity of institutions governing water supply planning and operation, demand management, watershed protection and other related functions. Another relates to water pricing. The two are interrelated and have in fact led to other connected issues.

Multiplicity of institutions without integrating mechanism. While there may be nothing wrong per se in involving a number of institutions in the management of

Box 1. Interagency collaboration in water use regulation

Required Document	Agency in Charge	Purpose of Water Use
Environmental Compliance Certificate or Certificate of Exemption	Department of Environment and Natural Resources (DENR)	All water permit applications except for domestic purposes
Certificate of Registration with Articles of Incorporation (for corporation or association)	Securities and Exchange Commission (SEC)	All water permit applications
Initial permit (as per R.A. 7156)	Department of Energy (DOE)	Power purposes
Physical and chemical analysis of water	Department of Health (DOH)	Recreation/commercial purposes
Clearance (if within the watershed of Laguna Lake)	Laguna Lake Development Authority	Fisheries and industrial purposes
Certificate of registration of business name for sole-proprietorship application	Department of Trade and Industry (DTI)	Industrial purposes
Certificate of conformance (for water districts)	Local Water Utilities Administration (LWUA)	Domestic purposes
Certificate of registration (if a barangay waterworks association)	Barangay Unit	Domestic purposes
Clearance (if reuse of wastewater for human consumption)	Department of Health (DOH)	Domestic purposes
Clearance from affected deputized agent	National Irrigation Administration (NIA) Metropolitan Waterworks and Sewerage System (MWSS), Department of Public Works and Highways (DPWH), Water District, National Power Corporation (NPC)	

Source: Dayrit, H.A. 2000. Role of interagency collaboration.

water resources, the issue really is that there is a lack of an *integrative* mechanism to interrelate the different functions of the institutions / agencies involved. Different policies separately vesting powers to specific agencies over water management seem to dominate the process.

For instance, one entity might be responsible for the planting of trees in a watershed area but another agency is the one granting the permit to cut down the trees. Or one agency's scope of responsibility is confined only to a limited area or part of a watershed while the other parts—though they closely affect the condition of the watershed—are in the hands of other groups or institutions. Of course, such situations may not be avoidable at times but in cases like these, the institutional arrangement and responsibility must be clearly delineated and made known to all parties concerned from the very start.

The situation becomes more complicated at the local level where local water districts operate. As mentioned earlier in the review of policies and regulations on water management, P.D. 198 or the Provincial Water Utilities Act of 1973 vested the ownership and operation of water supply and distribution systems for various purposes to local water districts under the governance of the LWUA. In 1991, however, the LGC provided that the water districts may opt to devolve their functions, including watershed management, to LGUs so that provinces and municipalities may take over the responsibility of managing the water supply systems within their territorial boundaries. Because of the discretionary proviso, though, this transfer may only be effected if the water districts choose to do so.[1]

The Local Government Code also stipulates that the LGUs should take on some responsibility in protecting the watershed. This function, of course, is also a responsibility of the entity that exploits the use of the watershed like the National Power Corporation. On top of this, the DENR is likewise tasked to safeguard the watershed resources.

In view of the dual and simultaneous roles among various entities, there should be proper coordination to achieve the common goal of preserving the watershed. The presence of different policies and disconcerted efforts should therefore be addressed immediately.

Water pricing. To this date, destructive cultivation practices by some farmers in the uplands continue to persist. These practices result in the siltation of the spring sources down to the river system and are considered as one of the major causes for the deterioration of watersheds. While continuing education for upland farmers on soil conservation technologies and alternative livelihood activities is obviously a priority action to address this, it should be noted that said concern is related to water pricing policy.

Box 2 shows the varying water charges at the local level.

Water is a product of the watershed but is the watershed accorded the appropriate cost for providing such water? Given the components of the price structure of water, the cost of using and exploiting the watershed is not incorporated in the existing water fees. What is taken only into account are the direct supply costs such as distribution costs, including capital, infrastructure, operation and maintenance.

One factor that could be considered in estimating water fees is the cost of rehabilitating and protecting the watershed. The former costs PhP20,000 per hectare while the latter, PhP7,000 to PhP10,000 per hectare. Incorporating such costs to the water fees and charges will imply higher fees although on a positive note, this will encourage water conservation and thus improve the quality of water service and the environment. Experience in other countries shows that raising water tariffs and imposing

[1]*The consequence of this situation may be appreciated when one considers that by virtue of the privilege granted to LGUs by the LGC for a share in the proceeds from the use of national wealth like watersheds, provinces and municipalities could earn from these proceeds. Unfortunately, in practice, the water districts remit their revenues directly to the National Treasury without releasing to LGUs their supposed share.*

Box 2. Implementation of water resource management at the local level

The case of the Valencia Water District (VWD) in Bukidnon illustrates how the water supply system operates at the local level. VWD is a government-owned and controlled corporation (GOCC) established in 1975 and consists of a Board of Directors that represents the different sectors of Valencia.

VWD sets the rates and charges for water in the area. The income it generates from the collection is used for operating and maintenance expenses covering salaries and wages, power consumption, materials, office supplies, payment of loans and expansion programs.

In setting the water rates, VWD bases the charges on a socialized pricing scheme whereby the most affluent and heavy water users are charged higher than the low-income, minimal users. For instance, for residential and government establishments, the water permit costs P1,500 while for commercial A-B entities, it costs P2,300.

In comparison with other urban areas of Cebu, Davao and Baguio City, though, VWD's water rates are higher as seen below.

Water charges of Valencia and other water districts (PhP/cum)

Water District	Minimum Charge (PhP/conn/mo.)	Consumption Bracket (cum) 11-20	21-30	31-40	41-50	51 and up
Valencia	125.00	14.30	16.40	19.25	22.60	26.65
Metro Cebu	90.65	10.00	11.76	32.26	32.62	
Davao City	50.00	5.25	6.80	9.00	15.00	
Baguio City	120.00	13.50	15.00	17.00	17.00	

Source: Data for Valencia - Valencia Water District; other areas - Inocencio and David, 2000.

VWD heavily depends on groundwater (95%) for its source and, to some extent, on spring sources (5%). It has five pumping stations, with one located very near the Pulangui River. As a contribution to watershed protection and management, VWD is monitoring its own watershed area consisting of three spring sources. Relying on its own budget, it has its own Watershed Management Officer to assume functions on forest establishment and production, protection, maintenance and improvement of the forest vegetations in the watershed area.

sewerage charges and effluent taxes have reduced water consumption without impairing industrial growth.

One possible difficulty is that the water users may not accept the idea that the cost of watershed conservation will be passed on to them, claiming that it is the people in the uplands who destroy the watershed. On the other hand, the upland farmers could also question what incentive they have to conserve the watershed. As such, the information campaign should not only focus on soil conservation technologies and alternative livelihood activities for farmers but also on the rationale for higher water fees for domestic and industrial users.

Conclusion

Based on the above discussions, one notes that improvements in efficiency in the production and delivery of water may be achieved by addressing two major concerns: a) formulation of an efficient pricing policy, and b) setting up of institutional reforms.

A more efficient pricing policy for water is necessary to cover not only the direct cost of water distribution but also the cost of the watershed as the provider of water. Government revenues from these charges may be allocated to management-related activities to conserve the watershed. From the gains earned from the water supply system, a certain amount should be earmarked for the implementation of the watershed management plan.

Finally, there is a need to clarify the specific roles of various institutions involved to harness a collaborative effort in water conservation and management. At

the local level, it is important to strengthen local capability for designing optimal arrangements and performing economic regulatory functions concerning water resources since the expansion of water supply projects has become increasingly costly.

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